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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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03/06/2001

Richard Lauder

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01/14/2004

CHRISTIE, PARKER & HALE, LLP
350 WEST COLORADO BOULEVARD
SUITE 500
PASADENA, CA 91105

EXAMINER

SEDIGHIAN, REZA

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 01/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/801,088

Applicant(s)

LAUDER ET AL.

Examiner

M. R. Sedighian

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,9,10,14-16,18,19,23 and 24 is/are rejected.
- 7) ☒ Claim(s) 3,6-8,11-13,17,20-22 and 25-28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,6 6) ☐ Other:

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1. The specification is objected because of the following informalities:
 - a) The reference numeral "620" in the last line of page 5, should change to --- 900 ---.
2. The drawings are objected because of the following informalities:
 - a) The reference numeral "314" is not shown in fig. 3.
3. Claim 12 is objected because of the following informalities:
 - a) The phrase "and to then" in line 3 of claim 12, should change to --- and then ---.
4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claim 14 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 14, it recites the limitations "the decoded GbE streams" in line 2, and "the 2.488 Gbit/s OC48 data streams", in line 4. There are insufficient antecedent basis for these limitations in the claim.
6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 1, 4, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morales et al. (US Patent No: 5,706,111) in view of Morita (US Patent No: 6,498,664).

Regarding claims 1 and 15, Morales teaches a core hub (CE, fig. 2) for providing cross connections (col. 5, lines 55-57) between network hubs (AN, fig. 2) interfacing to subscriber line connections (col. 4, lines 25-33, col. 5, lines 1-2), the core hub (CE, fig. 2) comprising: a plurality of bi-directional multiplexing units (col. 5, lines 48-57) each for demultiplexing one first bit rate data stream originating from one of the network hubs into n subscriber data streams (col. 5, lines 54-55) having a bit rate (note that the optical multiplex signal that reaches the CE can have a first bit rate), and a switching unit (note that CE has a switching means or a cross-connect for routing the information to other network elements) arranged to selectively cross-connect the individual subscriber data streams (col. 5, lines 55-57). Morales differs from the claimed invention in that Morales does not specifically teach the switch cross-connects the individual subscriber data back to individual ones of the multiplexing units for distribution of subscriber data to their respective destination network hub. However, Morales teaches a bi-directional WDM transmission system (col. 5, lines 1-2, note that transmission of optical signals between AN and CE through network elements such as WDM, MDF, and OAB is bi-directional), wherein a switching means (the cross-connect in the switching center CE) can route the information to other network elements or to the other terminals that are connected to the switching center (col. 5, lines 47-57). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention that an optical bi-directional WDM transmission system with switching means such as the one of Morales can switch or cross-connects the individual subscriber data, back to the individual multiplexing units for further distribution of

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data to the respective network hub in order to provide a bi-directional optical data communication between a plurality of subscribers and to provide protection in the case of system or fiber failure. Morales further differs from the claimed invention in that Morales does not disclose the n subscriber data streams having a bit rate which is substantially $1/n$ th of the first bit rate. Morita teaches an electro-optical data transmission system (fig. 2), wherein a first bit rate data stream (the 2488.32 Mb/s data signal in fig. 2) is demultiplexed (37, fig. 2) into a plurality of second bit rate data streams (43, 44, 45, 46, and 622.08 Mb/s, fig. 2) that are substantially $1/n$ th of the first bit rate (the demultiplexed data streams each has a bit rate of 622.08 Mb/s). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to transmit first and second bit rate data signals by the electro-optical data transmission system of Morales, as it is taught by Morita, in order to optically transmit a plurality of data signals of different bit rates.

Regarding claims 4 and 18, Morales teaches the multiplexing unit may comprise a uni-directional multiplexing sub-unit and a uni-directional demultiplexing sub-unit (col. 4, line 61, col. 5, line 1-2, 51-55 and WDM, fig. 2).

8. Claims 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fussganger (US Patent No: 5,202,780) in view of Morita et al. (US Patent No: 6,498,664).

Regarding claim 23, Fussganger teaches a method of distributing data (col. 1, lines 7-10) on a DWDM network (13, 15, 21, 25, fig. 1 and MB₁, MA₁, fig. 3) supporting first bit rate data streams (note that data signals that are transmitted between the MUX/DMUXs can have a first bit rate), the DWDM network (fig. 1) comprising a plurality of network hubs (Tln₁, Tln₈, fig. 1)

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interfacing to subscriber line connections (col. 2, lines 35-36) and a core hub (20, fig. 1) for providing cross connections between the network hubs (note that hub 20 distributes or cross connects the signals to different network hubs such as subscribers T_{1n_1} , T_{1n_8}), the method comprising the steps of: at each network hub (T_{1n_1} , T_{1n_8} , figs. 1, 3) multiplexing (MB_1 , MB_8 , fig. 3) n subscriber data stream each having a second bit rate into a single first bit rate data stream for distribution on the DWDM network (note that a plurality of data streams of respective subscribers are multiplexed by multiplexers/demultiplexers MB_1 and MB_8 and the single multiplexed signal of a first bit rate is transmitted to the DWDM network 20), at the core hub (20, fig. 1) demultiplexing (25, fig. 1) the single first bit rate data stream into subscribers data stream (col. 4, lines 14-22), and at the core hub (20, fig. 1) multiplexing (25, fig. 1) any n subscribers into a single first bit rate data stream for distribution to a same one of the network hubs (col. 4, lines 16-17). Fussganger differs from the claimed invention in that Fussganger does not specifically disclose the second bit rate is substantially $1/n$ th of the first bit rate. Morita teaches an electro-optical data transmission system (fig. 2), wherein a first bit rate data stream (the 2488.32 Mb/s data signal in fig. 2) is demultiplexed (37, fig. 2) into a plurality of second bit rate data streams (43, 44, 45, 46, and 622.08 Mb/s, fig. 2) that are substantially $1/n$ th of the first bit rate (the demultiplexed data streams each has a bit rate of 622.08 Mb/s). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to transmit first and second bit rate data signals by the electro-optical data transmission system of Fussganger, as it is taught by Morita, in order to optically transmit a plurality of data signals of different bit rates.

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9. Claims 2 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morales et al. (US Patent No: 5,706,111) in view of Morita (US Patent No: 6,498,664) and in further view of Azizoglu et al. (US Patent No: 6,430,201).

Regarding claims 2 and 16, the combination of Morales and Morita differs from the claimed invention in that Morales and Morita do not disclose the subscriber data streams are at 1 Gbit/s and the first bit rate data stream is at 2.488 Gbit/s. Azizoglu teaches a method of distributing data on a DWDM network (16, fig. 1), wherein data of first bit rate (2.488 Gb/s, fig. 1) and second bit rate (1.25 Gb/s, fig. 1) are transmitted (col. 1, lines 65-67, col. 2, lines 37-47). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention that the modified optical data transmission system of Morales and Morita can transmit data signals of first and second bit rates, such as the ones taught by Azizoglu, to provide a data network that can transmit Ethernet signals.

10. Claims 5 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morales et al. (US Patent No: 5,706,111) in view of Morita (US Patent No: 6,498,664) and in further view of Hatherill et al. (US Patent No: 5,202,883).

Regarding claims 5 and 19, the combination of Morales and Morita differs from the claimed invention in that Morales and Morita do not disclose the multiplexing unit is incorporated in a Trunk Interface Card. Hatherill teaches a multiplexer unit that is incorporated in a Trunk Interface Card (col. 8, lines 36-40). Therefore, it would have been obvious to an artisan at the time of invention to incorporate the multiplexers of Morales in a Trunk Interface Card, as it is taught by Hatherill in order to provide an interface card with multiplexing

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functionality or conversion, when interfacing respective incoming trunk lines to further distribute different data signals.

11. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morales et al. (US Patent No: 5,706,111) in view of Morita (US Patent No: 6,498,664) and in further view of McKiel, Jr (US Patent No: 5,953,140), or Azizoglu et al. (US Patent No: 6,430,201).

Regarding claims 9-10, the combination of Morales and Morita differs from the claimed invention in that Morales and Morita do not disclose the first and second multiplexing units comprise a 2xGbE/OC48 Packet Over Sonet (POS) multiplexer unit. McKiel teaches a plurality of OC48 channels can be multiplexed (col. 1, lines 27-40). Likewise, Azizoglu teaches a WDM multiplexer (16, fig. 1) for multiplexing OC48 channels (col. 4, lines 12-23). Therefore, it would have been obvious to an artisan at the time of invention to incorporate OC48 multiplexers such as the ones of McKiel, or Azizoglu for the WDM multiplexers in the modified optical transmission system of Morales and Morita in order to transmit and multiplex a plurality of GbE data signals.

12. Claims 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fussganger (US Patent No: 5,202,780) in view of Morita et al. (US Patent No: 6,498,664) and in further view of Azizoglu et al. (US Patent No: 6,430,201).

Regarding claim 24, the combination of Fussganger and Morita differs from the claimed invention in that Fussganger and Morita do not disclose the subscriber data streams are at 1 Gbit/s and the first bit rate data stream is at 2.488 Gbit/s. Azizoglu teaches a method of

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distributing data on a DWDM network (16, fig. 1), wherein data of first bit rate (2.488 Gb/s, fig. 1) and second bit rate (1.25 Gb/s, fig. 1) are transmitted (col. 1, lines 65-67, col. 2, lines 37-47).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention that the modified optical data transmission system of Fussganger and Morita can transmit data signals of first and second bit rates, as it is taught by Azizoglu, to provide a data network that can transmit Ethernet signals.

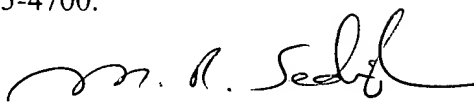
13. Claims 3, 6-8, 11-13, 17, 20-22, and 25-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. R. Sedighian whose telephone number is (703) 308-9063.

The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.


M. R. SEDIGHIAN
Patent Examiner
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